

Fiscal Year 2002 Accomplishments

In fiscal year 2002, the U.S. Fish & Wildlife Service (USFW) worked with Brookhaven National Laboratory (BNL) staff to conduct baseline surveys and initiate appropriate research studies at the Upton Ecological and Research Reserve. Activities are summarized below.



Reserve Management

- Surveyed white-tailed deer population throughout BNL
- Surveyed breeding forest songbirds across BNL
- With assistance of US Forest Service, performed aerial survey for insect damage
- Assessed small mammal diversity and abundance investigation
- Established deer exclosures and inventoried forest regeneration to study effects of deer overpopulation
- Assisted researchers from Dowling College and Stony Brook University
- Surveyed for the presence of Eastern Tiger Salamander
- Published BNL's Fire Management Plan
- Posted the Research Reserve's boundary

Research

On April 9, 2002, a Request For Proposals (RFP) was mailed to various higher learning institutions, informing them of grants available for Pine Barrens-related research. This RFP was sent to more than 200 addressees. Proposals were received no later than May 30, 2002, were reviewed by the TAG, and assigned a rating. Only the highest rated proposals were accepted and funded. The following research projects were funded this year:

Factors promoting invasion of exotic plant species in forests of the Upton Reserve

Jessica Gurevitch, Professor, Department of Ecology and Evolution SUNY Stony Brook.

Her study will focus on conditions under which some native and non-native plants thrive, thereby better understanding how invasive plants threaten forest health. This agreement is for \$77,511 over the course of three years. In April 2002, Gurevitch established study plots and recorded existing vegetation. She then experimented with forests in and outside the Reserve, in which she altered the light conditions by creating forest gaps and modifying soil nutrients by adding nitrogen.

SUNY Stony Brook, Assessment of the effects of fire on the Orangestriped Oakworm (*Anisota senatoria*)

Peter Kelly and Manuel Lerdau, Professor, Department of Ecology and Evolution.

Their proposal will study the effects of fire on the Orangestriped Oakworm, a forest pest species of the Reserve and Pine Barrens. The study will evaluate the role of fire in controlling oakworm populations.



This agreement is for \$12,000 over the course of two years. This study began in September 2002 with a prescribed burn on neighboring State lands. The burn was performed in cooperation with NYS DEC and The Nature Conservancy.

Invasive, Exotic Non-Invasive, and Native Woody Vines of the Northeastern United States, SUNY Stony Brook

Isabel Ashton and Manuel Lerda, Professor, Department of Ecology and Evolution.

This study will investigate the mechanisms by which imported vine species become invasive. Lerda and Ashton are comparing vines of differing "invasiveness" by looking at differences in leaf longevity, seed dispersal, and susceptibility to pathogens. This two-year agreement is for \$42,065. This study began in June of 2002 with the planting of their target species.

Assessment of leaf removal on woody plant growth and function, Dowling College

Richard Wilkins, Professor, Department of Life Sciences.

This study will determine the effects of leaf removal on tree health and longevity. Staff have documented annual defoliation in oak trees within the Reserve and there is concern that such repeated defoliation will ultimately lead to significant amounts of tree mortality. This one-year agreement is for \$14,700. Field sampling occurred in June and October 2002.



Education

Suffolk Community College, Deer browse damage assessment at BNL and the Upton Reserve

John Black, Professor, Suffolk Community College summer research program.

This program provided eight local high school students the opportunity to implement the scientific method through controlled experiments, data analysis, report writing, and oral presentations. This program began on June 3, 2002, and ended August 16, 2002. This project was designed, funded, and overseen by the Service. The final report for this \$15,500 agreement is pending.



Outreach

Given the importance placed on outreach through the Interagency Agreement with the Service, Reserve staff participated in the following:

- Heckscher State Park's Earthday Celebration
- U.S. Fish and Wildlife Service's Refuge Centennial celebration
- BNL's Summer Sunday Event



- Feature article in the BNL's news Bulletin
- Upton Reserve article to be published in special Centennial edition of Fish and Wildlife News

Partnerships

Partnerships are an integral part of operations at the Upton Reserve. This past year, USFW forged new ties and maintained existing relationships with the following:

- Technical Advisory Group, hosted by the Service at BNL
- Fire Learning Network, hosted by The Nature Conservancy
- Fire Protection and Assessment group, hosted by BNL's Fire Department
- Central Pine Barrens Wildfire Task Force and Prescribed Fire subcommittee, hosted by the Central Pine Barrens Planning Commission
- Founder of Long Island Native Grassland Group
- U.S. Fish and Wildlife Service prescribed burning team